

REMARKS

The Applicants have carefully reviewed the Final Office Action mailed December 20, 2007 and offer the following remarks.

Claims 1, 3-5, 11, 12, 14-17, 24, and 25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,873,795 B1 to *Sugaya* (hereinafter “*Sugaya*”) in view of U.S. Patent Application Publication No. 2002/0176658 A1 to *Prohaska* (hereinafter “*Prohaska*”) and further in view of U.S. Patent No. 5,521,701 to *Felger et al.* (hereinafter “*Felger*”). The Applicants respectfully traverse the rejection.

Prior to addressing the rejection, the Applicants provide herewith a brief summary of the present invention. The present invention measures optical signal strength in an optical system. According to the present invention, optical signals comprised of more than one wavelength pass through a wavelength select switch to a power meter, where an optical amplifier boosts the gain of the signals. The power meter measures the power in the optical signals and displays an indication of the optical signal power. The present invention also controls the optical amplifier using the measured optical power signal. In particular, a controller controls the optical amplifier by causing the optical amplifier to either increase or decrease the optical strength, such as increasing or decreasing the boost of a gain, of an optical signal, where the controller controls the optical amplifier in accordance with the measured power in the optical signal, thereby regulating optical signal power of the optical signals. The Applicants submit that none of the cited references, either alone or in combination, disclose or suggest controlling an optical amplifier in accordance with an optical signal power in order to regulate an optical signal power of optical signals.

Now turning to the rejection, according to Chapter 2143.03 of the M.P.E.P., in order to “establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.” The Applicants submit that none of the references, either alone or in combination, disclose or suggest all the features recited in claims 1, 3-5, 11, 12, 14-17, 24, and 25. More specifically, claim 1 recites a method of measuring optical signal power comprising, among other features, “controlling an optical amplifier in accordance with the power of the optical signals to regulate optical power of the optical signals.” The Applicants submit that none of the references, either alone or in combination, disclose or suggest controlling an optical amplifier in accordance with a power of optical signals in order to regulate the optical

power of an optical signal. In maintaining the rejection, the Patent Office asserts that *Sugaya* discloses this feature in Figure 11.¹ The Applicants disagree. More specifically, *Sugaya* discloses a photodiode 31, which converts a wavelength-division-multiplexed signal into an electric signal, and sends the electric signal to a total-power uniformizing controller 32.² Furthermore, *Sugaya* discloses a control correction unit 33, which outputs a signal to an excitation light source 29 based on the output from the total-power uniformizing controller 32 or a peak detection circuit 15.³ In addition, the excitation light source 29 controls a level of light output from an optical amplifying fiber 28.⁴ However, the excitation light source 29 does not control an optical signal power, i.e., increasing or decreasing the optical strength, of an optical signal. Instead, the excitation light source 29 controls the amount of light that is output from the optical amplifying fiber 28. Moreover, neither *Prohaska* nor *Felger*, either alone or in combination, discloses or suggests controlling an optical amplifier in accordance with a power of optical signals in order to regulate the optical power of an optical signal. Therefore, claim 1 is patentable over the cited references and the Applicants request that the rejection be withdrawn. Similarly, claims 3-5, 11, and 24, which depend from claim 1, are patentable for at least the same reasons along with the novel features recited therein.

Claim 12 recites an apparatus for measuring optical signal power comprising, among other features, “a controller which controls an optical amplifier by generating a control signal for an optical amplifier in accordance with the power of the optical signals to regulate optical power of the optical signals.” As detailed above, none of the references, either alone or in combination, disclose or suggest a controller which controls an optical amplifier by generating a control signal in accordance with a power of optical signals to regulate optical power of the optical signals. As such, claim 12 is patentable over the cited references and the Applicants request that the rejection be withdrawn. Likewise, claims 14-17 and 25, which depend from claim 12, are patentable for at least the same reasons along with the novel features recited therein.

Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Sugaya* in view of *Prohaska* and *Felger* and further in view of U.S. Patent No. 4,903,339 to *Solomon* (hereinafter “*Solomon*”). The Applicants respectfully traverse the rejection. As detailed above,

¹ See Final Office Action mailed December 20, 2007, page 6.

² See *Sugaya*, col. 12, lines 50-55.

³ See *Sugaya*, col. 12, line 65 – col. 13, line 17.

⁴ See *Sugaya*, col. 11, lines 46-48.

claim 1, the base claim from which claim 10 depends, is patentable over *Sugaya* in view of *Prohaska* and *Felger*. Moreover, *Solomon* fails to overcome the previously noted shortcomings of *Sugaya*, *Prohaska*, and *Felger*. Thus, claim 10 is patentable over the cited references and the Applicants request that the rejection be withdrawn.

Claims 7 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Sugaya* in view of *Prohaska* and *Felger* and further in view of U.S. Patent No. 5,986,782 to *Alexander et al.* (hereinafter "*Alexander*"). The Applicants respectfully traverse the rejection. As discussed above, claims 1 and 12, the base claims from which claims 7 and 18 respectively depend, are patentable over *Sugaya* in view of *Prohaska* and *Felger*. In addition, *Alexander* does not address the previously noted deficiencies of *Sugaya*, *Prohaska*, and *Felger*. Thus, claims 7 and 18 are patentable over the cited references and the Applicants request that the rejection be withdrawn.

The present application is now in a condition for allowance and such action is respectfully requested. The Examiner is encouraged to contact the Applicants' representative regarding any remaining issues in an effort to expedite allowance and issuance of the present application.

Respectfully submitted,

WITHROW & TERRANOVA, P.L.L.C.

By:



Anthony J. Josephson
Registration No. 45,742
100 Regency Forest Drive, Suite 160
Cary, NC 27518
Telephone: (919) 238-2300

Date: February 14, 2008
Attorney Docket: 7000-209